SCIENTIFIC COMPUTER PROGRAMMER SERIES

Code No.	Class Title	Occ. Area	Work Area	Prob. Period	Effective Date
3148	Scientific Computer Programmer I	02	735	6 mo.	01/29/97
3149	Scientific Computer Programmer II	02	735	6 mo.	01/29/97
4565(3149)	Scientific Computer Programmer III	02	735	6 mo.	01/29/97

Promotional Line: 231

Series Narrative

Employees in this series perform and/or are in charge of scientific programming of digital computers as related to scientific, research, engineering, or mathematical applications.

DESCRIPTIONS OF LEVELS OF WORK

Level I: Scientific Computer Programmer I   3148

Employees at this level perform scientific programming of digital computers as related to scientific, research, engineering, or mathematical applications. The employees work under general supervision from a designated supervisor.

A Scientific Computer Programmer I typically –

1.   assists in the analysis of scientific research and engineering projects to determine the best programming approach

2.   assists in determining what programming language or library program should be used

3.   prepares flow charts, analyzes complex systems, and writes scientific computer programs

4.   codes, debugs, and tests scientific computer programs

5.   may coordinate work projects between data processing department and the scientific users

6.   informs users of ways in which computers can be applied to scientific projects

7.   performs other related duties as assigned

Level II: Scientific Computer Programmer II   3149

Employees at this level are responsible for programming digital computers as related to scientific, research, engineering, or mathematical applications. The employees work under administrative supervision from a designated supervisor.

A Scientific Computer Programmer II typically –

1.   analyzes scientific research and engineering projects to determine the best programming approach

2.   makes determinations concerning which of the various machine languages or library programs should be used

3.   discusses with designated personnel the approach to be taken and the exact format of output desired to ensure the approach meets project requirements

4.   advises designated personnel concerning the magnitude of programming jobs, time requirements for programming, debugging, and testing

5.   prepares flow charts and logical analysis of complex systems

6.   codes, debugs, and tests scientific computer programs

7.   provides technical advice to faculty, research personnel, and analysts concerning aspects of computers related to scientific, research, and engineering projects

8.   supervises subordinates as assigned

9.   performs other related duties as assigned

Level III: Scientific Computer Programmer III   4565(3149)
Employees at this level plan, direct, and review the activities of a group of scientific computer programmers and other assigned professional staff who are responsible for the application and/or instruction in the use of scientific research, engineering, or mathematical computer programs and software packages. The employees work under the administrative direction of a designated administrator.

A Scientific Computer Programmer III typically –

1.   selects, trains, and evaluates the performance of subordinate staff; determines need for advanced training and/or cross training of subordinate staff in specialized software packages

2.   directs the evaluation of new and revised software packages to determine possible use by faculty, staff, and/or students; recommends acquisition of new or revised software packages

3.   determines need and establishes schedules for training programs for faculty, staff, and/or students in the use of software packages; assigns and evaluates performance of subordinate staff in providing instruction

4.   provides personal technical assistance to faculty, staff, students, and/or other data processing personnel as needed

5.   performs other related duties as assigned

MINIMUM ACCEPTABLE QUALIFICATIONS REQUIRED FOR ENTRY INTO:

Level I: Scientific Computer Programmer I   **3148**

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. Bachelor's degree with an emphasis on statistics, mathematics, engineering, or specialized areas of research as required by the position to be filled

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. basic knowledge of scientific oriented programming languages

2. basic knowledge of high speed computers

3. ability to operate digital computers

Level II: Scientific Computer Programmer II   **3149**

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. Bachelor's degree with an emphasis on statistics, mathematics, engineering, or specialized areas of research as required by the position to be filled

2. any combination of scientific programming experience and formal course work in computer science or computer-related subjects[1] that totals two years

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. thorough knowledge of problem oriented computer language

2. basic operating and technical knowledge of digital computers

Level III: Scientific Computer Programmer III   **4565(3149)**

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. Bachelor's degree with a major in statistics, mathematics, computer science, or other related fields

2. (A) four years of experience in the application and/or instruction in the use of software packages to research-oriented problems

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[1]Such course work in computer science or computer-related subjects need not have been in addition to the Bachelor's degree training listed in #1; undergraduate course work in these fields can be used to meet both requirement 1 and requirement 2.

or

(B)   Master's degree in statistics, mathematics, computer science, or other related fields **and** two years of post-Master's degree work experience involving the use of software packages

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB